Multi Media Madness – Improving Professional Development for Instructional Technology

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Abstract

Multi Media Madness (3Ms) was a faculty development program where participants were guided by mentors through the development of a multimedia project. Nine faculty participants attended a week long workshop session in June 2003 taught by three mentors. At the end of the workshop series, the participants submitted a project plan that was reviewed, critiqued, and approved by the mentors. During the summer, the faculty developed the proposed project with guidance from the mentors. In September 2003, the group met and presented their projects to their peers and evaluated the program. The 3M's program was considered to be a success by both the participants and the mentors; however, changes need to be made to improve future offerings. This paper presents a summary of the project and recommendations for improvement.

Introduction

Sinclair Community College offers over 100 faculty development workshops per year covering a variety of technology and pedagogy topics. Although the workshops have been well attended and the attendees have been very satisfied with the learning experience, it did not appear that the participants were transferring what they had learned at the workshops into the classroom. A spring 2002 survey confirmed the suspicions and a new program, Multi Media Madness (3Ms), was developed to address the issues identified in the survey.

The purpose of this project was to learn if faculty members gain a better understanding of instructional technology when they are guided by mentors in a project-based faculty development program. Nine faculty participants and three faculty technology mentors participated in this study. In June 2003, the participants attended a weeklong workshop series that covered instructional design, project planning, and a variety of multimedia tools. At the end of the workshop series, each participant submitted a project plan that was reviewed, critiqued, and approved by the mentors. Participants were given a multimedia notebook computer, software, scanner and laser printer for their use throughout the project. During the summer, the participants developed their projects with guidance from the mentors. The group presented their projects to their peers and evaluated the program in September 2003. The 3M's program was considered to be a success; however, changes need to be made to improve future offerings.

Project Results

Four methods were used to gather data for this study: survey, discussion, review of completed projects, and interviews. The data were collected during the wrap-up session on September 11, 2003 and in interviews with the mentors September 22 – 26, 2003. Data were collected to measure the amount of improvement in the participants' skill levels, their increased understanding of applying instructional technology, the quality of the projects, the perceived effectiveness of the learning experience, useful technologies, and effectiveness of the mentoring process.

The 3Ms participants completed a survey (see Appendix A) at the September wrap-up session. Questions solicited feedback on the participants' perception of their beginning and ending skill levels, useful technologies, ease of learning the technology, mentoring process, learning experience, and technical support. They also had the opportunity to make suggestions to improve the program.

Group discussion topics at the wrap up session focused on which technologies were useful, what added and detracted from the learning experience, and how the overall program could be improved. Interviews were conducted with the mentors in late September to gain insight into their experience. The interviews began with an open-ended question so that the information was contributed freely and not determined by the questions asked. The 3Ms participants presented their projects at the wrap-up session. The projects were reviewed and evaluated by the researcher and the mentors based on instructional effectiveness, level of technical expertise, and use of multimedia.

The data for the improvement in skill level were gathered from the participants' survey responses to the skills self-assessment question (see Table 1). Participants were asked to rate their starting and ending skill levels for each of the technologies that they used to complete their projects and their starting and ending overall instructional technology skill level. The increase in ratings shown in Table 1 demonstrates improvement. The largest increases were seen in Microsoft Producer and video capture/editing. The average skill level for Producer increased from 2.00 to 3.30, a 65% increase; while digital video capture/editing increased from 2.40 to 3.90, a 63% increase. The participants' overall technical skill level increased form 3.36 to 4.10, moving from the *beginner* to *proficient* level.

The data for increased understanding of applying instructional technology were gathered from an open-ended survey question that asked the participants how their participation in the program improved their understanding of instructional technology. One participant stated that she gained confidence in using technology and would use technology in other classes. Another participant realized how multimedia could be used to better engage the students and allow them to construct their own knowledge. A third participant indicated that her skills had improved and that she would be more likely to request assistance from her colleagues and technical support staff. All participants agreed that they would use technology to develop additional enhancements.

Table 1. Starting and ending skill levels

Beginning Average	Ending Average	Change	Technology
3.70	4.60	0.90	Microsoft PowerPoint
2.00	3.30	1.30	Microsoft Producer
2.40	3.40	1.00	Camtasia
1.25	2.40	1.15	Vegas Video
2.80	2.90	0.10	Macromedia Dreamweaver
2.50	2.60	0.10	Macromedia Flash
2.40	3.90	1.50	Digital video capture/editing
3.30	3.80	0.50	Digital sound capture/editing
4.40	4.50	0.10	Scanning / digital image editing
2.90	3.70	0.80	Vox Proxy
3.36	**4.10**	**0.74**	**Overall instructional technology skill level**

Key: **1** – None **2** - Poor **3** – Beginner **4** – Proficient **5** – Expert

The quality of the final projects was judged at the wrap-up session by the researcher and the mentors. The projects were judged based on the instructional effectiveness, level of technical expertise, and types of multimedia used. As shown in Table 2, the participants found a variety of methods to integrate technology into the learning process. The review team was impressed with the unique ideas that were implemented by the participants. All projects were rated very good to excellent.

Table 2. 3Ms Projects

Project	Description
What is Horsepower?	Digitized a Dukane slide show that had been created in the 1960s
Theatrical Lighting	Scanned over 75 pictures and shot video of varying lighting effects and incorporated into a PowerPoint presentation
Blueprints	PowerPoint presentation to highlight and explain blueprints
Chemistry Pre Lab	PowerPoint presentation to demonstrate procedures prior to completing them in the lab
Dental Lab Dark Room	Producer presentation to demonstrate dark room equipment and procedures
Electronic Resume	Producer presentation to be used as an example for students who will be creating electronic resumes
Infertility Clinic	Producer presentation with digital video scenarios of nurse meeting with patients
Cardiac Surgery	PowerPoint presentation containing pictures and video from local heart surgeon
Student Email	Camtasia screen movies demonstrating features of student email system

The data for effectiveness of the learning experience were gathered from group discussions at the wrap-up session. Discussion topics included the effectiveness of the learning experience – what

made it a good learning experience and what detracted from the learning experience. Overall the participants agreed that it was an excellent learning experience. Eight of the nine participants strongly agreed that creating a project was more beneficial than attending workshop sessions. They especially enjoyed the workshops where they developed a group project, and indicated that the experience helped them understand the project development process and the uses for the various technologies. It was felt that the group project experience provided a good foundation to begin developing their individual projects. Several participants confessed that they procrastinated and that intermediate deadlines might have helped them stay on task.

The technologies used were determined from faculty responses to the survey where they were asked to indicate which technologies they used and to rate the ease of learning for each technology and from the project demonstrations. The wrap-up session also included a discussion about which technologies were most useful. The ease of learning ratings from the survey are shown in Table 3. PowerPoint, Producer, digital video capture, and digital sound capture were rated as the easiest to use and learn. This was further supported by the technologies that the faculty used most frequently in the development of their projects.

Table 3. Technologies used by 3Ms participants

Average Rating	Number of Raters	Technology
4.80	12	Microsoft PowerPoint
3.50	12	Microsoft Producer
2.20	11	Camtasia
1.60	11	Vegas Video
1.80	12	Macromedia Dreamweaver
2.00	11	Macromedia Flash
4.00	12	Digital video capture/editing
3.80	11	Digital sound capture/editing
3.10	11	Scanning / digital image editing
2.80	11	Vox Proxy

Rating Scale
1 – I did not use this technology.
2 – I attempted to use this technology, but it was too difficult.
3 – I learned to use this technology, but I needed a lot of assistance.
4 – I learned to use this technology, but required some assistance.
5 – This technology was easy to use / intuitive.

In discussions, the faculty agreed that PowerPoint and Producer were the easiest and most useful technologies. Even though digital video and sound capture were rated as easy to learn and use, participants complained that it was very time consuming to plan and write the scripts and record quality video and sound. It was reported that sound levels, popping "P's", and video recording were problematic. Further discussion revealed that those who used Sound Forge (sound capture software that was available on their notebooks) did not experience sound quality problems. Two faculty members experienced difficulty with video recording. One participant reported that it took seven hours to produce 10 minutes of usable video; however, a video producer who attended the session stated that this time commitment was not unusual. One participant who at-

tempted to video theatrical lighting effects experienced difficulty because the auto focus on the camera compensated for the lighting changes which prevented her from capturing the desired effects. This problem could have been quickly resolved if she had called her mentor or technical support staff, who would have instructed her to use manual focus.

The effectiveness of the mentoring process was measured by the number of times the mentors were consulted and the perceived value of the mentoring process from both the participants' and mentors' points of view. Participants were asked to rate the mentoring experience on the survey. Closed-ended questions asked the number of times a mentor was contacted and if the mentor was beneficial. Open-ended questions asked what problems were encountered in the mentoring process and how the process could be improved. The mentors were interviewed and asked to summarize their mentoring experience, explain what worked best, and suggest how the mentoring process could be improved.

The mentors were consulted an average of 2.83 times per participant. Eight of the nine participants found the mentoring process to be beneficial and six participants strongly agreed that having a mentor made them more willing to try something new. Although the mentoring and technical support processes were explained at the initial workshops and each participant was given a card with the names and phone numbers for all mentors and technical support staff, one participant was not aware that she had a mentor and another commented that a list of contacts would have been useful.

Recommendations for Future Offerings

Additional data were gathered to help improve the next iteration of the 3Ms program which began in December 2003. Suggestions for improvement were solicited during the group discussion at the wrap-up session. Six participants strongly or partly agreed that required meetings with their mentors and due dates for various milestones would have improved the learning experience. Eight participants strongly or partly agreed that periodic group meetings and required intermediate deliverables would have been beneficial.

A group discussion with the three mentors revealed that they each had different approaches to working with their mentees. M1's mentees had the lowest beginning skill levels. She scheduled meetings with her mentees and developed check lists for them so that they knew what they needed to do. Her mentees successfully completed their projects by the due date and they were very proud of their accomplishments.

M2's mentees had higher technical skill levels. Even though M2 contacted his mentees several times and attempted to set up appointments, he was successful in meeting with each participant only once. He suspected that because his mentees considered themselves to be technically skilled, they did not want him to know that they needed help. The faculty in this group did not complete their projects by the due date, but the pieces that they did finish were quite professional.

M3 simply told his mentees to call him if they needed help. One mentee never called for help, but was able to produce a PowerPoint presentation with a menu and six videos. The other two mentees called him once or twice to ask a question, but there were no face-to-face meetings.

The mentors agreed that the mentoring process needed to be more clearly defined. They recommended that all mentors use M1's check sheets to better guide the participants through the process. A *Designing Classroom Materials* workshop was also recommended. It was agreed that two or three mentees per mentor is the optimal ratio. They recommended that mentees be required to meet with their mentors on a monthly basis and that at least one group meeting of all mentors and participants be scheduled per quarter. It was suggested that the project scope needed more precise definition – one or two lessons where each lesson is composed of 15 to 25 screens or slides was recommended.

Conclusion

The 3M's program was considered to be a success; however, changes need to be made to improve future offerings. Overall the participants agreed that it was an excellent learning experience. Eight of the nine participants strongly agreed that creating a project was more beneficial than attending workshop sessions. All participants agreed that they would use technology to develop additional enhancements. The participants' overall technical skill levels increased from the *beginner* to *proficient* level. The review team was impressed with the unique ideas that were implemented in the projects. All projects were rated very good to excellent. PowerPoint, Producer, digital video capture, and digital sound capture were the technologies that were rated as the easiest to use and learn, and were also the technologies most frequently used in the projects. However, participants did experience some difficulty with video and sound capture. All participants successfully created a project, although some participants completed their projects two weeks after the due date. Intermediate due dates could help reduce this problem. All participants indicated that they would use technology for future course enhancements. Several participants and all mentors indicated that they would like to participate again. Although the mentoring process was considered beneficial, it needs to be improved. Suggestions for improvement include: use of checklists to better guide participants, required monthly meetings with mentors, quarterly group meetings to share ideas and progress, and intermediate due dates.

Appendix A
3M's Program Evaluation Survey
September 11, 2003

1. Please rate the ease of learning for the technologies that you used or attempted to use in developing your project.

Please rate each technology using the following scale:

1 – I did not use this technology.
2 – I attempted to use this technology, but it was too difficult.
3 – I learned to use this technology, but I needed a lot of assistance and/or it had a steep learning curve.
4 – I learned to use this technology, but required some assistance and/or it had a moderate learning curve.
5 – This technology was easy to use / intuitive.

Rating	Technology
	Microsoft PowerPoint
	Microsoft Producer
	Camtasia
	Vegas Video
	Macromedia Dreamweaver
	Macromedia Flash
	Digital video capture/editing
	Digital sound capture/editing
	Scanning / digital image editing
	Vox Proxy
	Other (please list):
	Other (please list):
	Other (please list):

2. For each of the technologies that you used to complete your project, please rate your beginning and ending skill levels using the following scale:

1 – None
2 - Poor
3 – Beginner
4 – Proficient
5 – Expert

Beginning	Ending	Technology
		Microsoft PowerPoint
		Microsoft Producer
		Camtasia
		Vegas Video
		Macromedia Dreamweaver
		Macromedia Flash
		Digital video capture/editing
		Digital sound capture/editing
		Scanning / digital image editing
		Vox Proxy
		Overall instructional technology skill level
		Other (please list):
		Other (please list):
		Other (please list):

Use the following scale for questions 3 - 5

1 – Strongly disagree
2 – Partly disagree
3 – Neither agree nor disagree
4 – Partly agree
5 – Strongly agree

3. Please rate your project creation experience

Rating	Question
	I will use technology to develop additional course enhancements.
	Creating my project was a rewarding experience.
	I feel that the project that I created will improve student learning
	Creating a project helped me better learn the technology than attending individual workshops sessions.
	Knowing that a mentor was available made me more willing to try something new.

4. **The following changes would improve the learning experience.**

Rating	
	Required meetings with a mentor scheduled at the time of the face to face workshops
	Periodic group meetings to share ideas, progress, and experiences with my colleagues
	Required intermediate deliverables
	Due dates for various milestones in project development

5. **Please rate the tool kit that was provided to you.**

Rating	
	The equipment was set up correctly
	The hardware was adequate
	I was able to complete the project with the hardware and software that was available for the 3 Ms program.

6. **Please rate the technical support that was available.**

    a. How many times did you request technical support for your tool kit? _____

    b. If you required technical support, what type of support did you need?

7. **Please rate the mentoring experience.**

    a. How many times did you consult a mentor? _____

    b. Was it beneficial to have a mentor available? Yes No

    c. Please explain how the mentoring process could be improved?

8. **How did your participation in the 3Ms program improve your understanding of instructional technology?**

9. **What was your biggest challenge in completing your project?**

10. **Other comments/suggestions.**

Thank you for your participation in the 3Ms Project